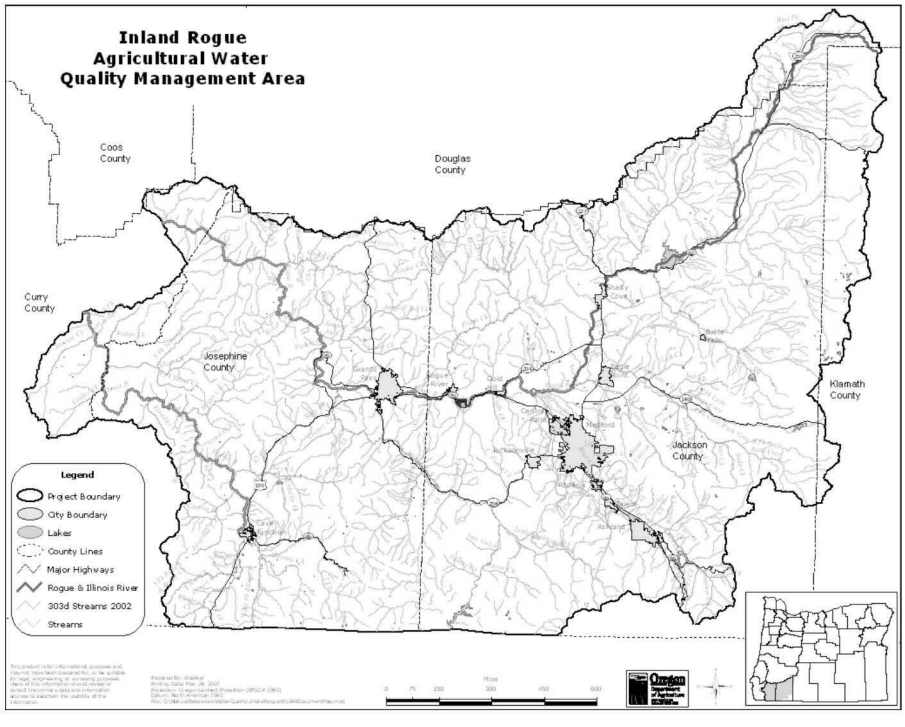
Inland Rogue
Bear Creek

AGRICULTURAL WATER QUALITY MANAGEMENT AREA PLANS AND RULES

BIENNIAL REVIEW REPORT TO THE OREGON STATE BOARD OF AGRICULTURE

June 4, 2007



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I. Purpose

Agricultural Water Quality Program administrative rules provide for the Oregon Department of Agriculture (ODA) and each Local Advisory Committee (LAC) to conduct biennial evaluations of agricultural water quality management area plans (area plans) and area rules. As part of the review, the Local Advisory Committee will submit a written report to the State Board of Agriculture (Board) and the ODA Director, summarizing meetings held, advisory committee members present, actions taken, and progress and impediments toward achievement of area plan goals. The report may also include recommendations to the Board and the Director regarding modifications to the area plan that may be necessary to achieve water quality goals and objectives.

In the winter of 2007 the Bear Creek and Inland Rogue Local Advisory Committees voted to merge the Bear Creek and Inland Rogue agricultural water quality management areas. The merged committee has taken the name of the Inland Rogue Local Advisory Committee and is in the process of revising the Inland Rogue Agricultural Water Quality Management Area Plan and Rules to reflect the merged management areas. Completion of the revised plan and rules is expected by the end of 2007.

The Inland Rogue Local Advisory Committee submits this combined report to the Board of Agriculture to summarize and evaluate implementation of the Inland Rogue and Bear Creek Agricultural Water Quality Management Area Plans and Rules.

II. Introduction

In response to mounting concerns about agricultural effects to water quality, the Oregon State Legislature passed the Agricultural Water Quality Management Act (Senate Bill 1010) in 1993.
This law directed ODA to work with farmers and ranchers to develop agricultural water quality management area plans for basins with water quality problems.

From 1993 through 1998, ODA and the Bear Creek LAC worked to develop a management plan and associated administrative rules for the Bear Creek Agricultural Water Quality Management Area. The LAC updated the plan in 2005. From 1998 to 2001, ODA and the Inland Rogue LAC worked to develop a management plan and associated administrative rules for the Inland Rogue Agricultural Water Quality Management Area. The Inland Rogue LAC conducted its first biennial review in 2003-2004.

As provided by administrative rule (OAR 603-90-0020), the LACs consisted primarily of landowners residing in these two management areas. These individuals were selected to represent diverse aspects of agriculture in Bear Creek and the Inland Rogue. Representatives of the local community were also part of the committees.

The Jackson, Josephine and Illinois Valley Soil and Water Conservation Districts (SWCD) assisted in nominating the LACs, supported them during development of the plans, and are the local entities responsible for implementing the plans. The SWCD and ODA signed Local Management Agency (LMA) agreements in 1998 to formalize these responsibilities. These agreements have been updated yearly.

III. Background

When developing the Bear Creek and Inland Rogue plans and rules, the LACs identified several objectives that, if achieved, would significantly improve water quality in the Management Areas. The LACs then developed rules establishing

standards that had to be met on all agricultural lands.

Bear Creek Area Plan Mission Statement

The mission of the Bear Creek Agricultural Water Quality Management Area Plan is to seek to achieve the water quality standards in place on March 30, 2004, for the Bear Creek sub-basin by preventing and controlling water pollution resulting from agricultural activities, given the background pollutant levels documented by monitoring data.

Bear Creek Area Plan Objectives

- Create a high level of awareness of water quality issues and problems among farmers in the watershed;
- Promote practices that limit the movement of pollutants from agricultural lands into Bear Creek;
- Promote practices that stabilize stream-banks;
- Promote practices that reduce sedimentation of streams due to soil erosion;
- Seek to control water pollution as close to its source as possible; and
- Seek funding necessary to achieve the mission statement.

Bear Creek Area Rules

The Bear Creek LAC developed Area Rules specifically for the Bear Creek basin. These rules address identified water quality concerns in the Bear Creek basin such as sedimentation, nutrients, bacteria, and temperature that are affected by agricultural activity. The rules require agricultural landowners in the Management Area to:

- Not impede the development or maintenance of adequate riparian vegetation to control water pollution.
- Comply with provisions of ORS 468B.025 or ORS 468B.050.

Inland Rogue Area Plan Goal Statement

General Goal: To describe reasonable methods and practices all people engaged in agricultural activities may use to maintain and improve water quality while preserving and enhancing economic viability in the Rogue Basin.

Inland Rogue Area Plan Objective

Attain water quality standards that serve the beneficial uses designated for the Rogue Basin. They are listed alphabetically.

- Aesthetic quality
- Anadromous fisheries passage, rearing and spawning
- Cold water resident aquatic life
- Commercial navigation and transportation
- Contact recreation, fishing and boating
- Drinking water, both public and private
- Irrigation
- Livestock watering
- Threatened and endangered species
- Wildlife and hunting

Inland Rogue Area Rules

The Inland Rogue LAC developed Area Rules specifically for the Inland Rogue basin. These rules address identified water quality concerns in the Inland Rogue basin such as sedimentation, nutrients, bacteria, and temperature that are affected by agricultural activity. The rules require agricultural landowners in the Management Area to:

- Have no visible evidence of active erosion resulting from agricultural activities.
- Not impede the development of adequate riparian vegetation to control water pollution.

- Not exceed state water quality standards from unmanaged surface irrigation returns from unchanged sets.
- Comply with provisions of ORS 468B.025 or ORS 468B.050.

IV. Area Plan and Rules Implementation Activities, 2005-2007

As described in the Area Plan, the Jackson, Josephine and Illinois Valley SWCDs are the Local Management Agencies for the Bear Creek and Inland Rogue Plans. The SWCDs directors and employees have worked with ODA, US Department of Agriculture Natural Resources Conservation Service (NRCS), and Oregon State University Extension Service (OSU Extension) to hire highly skilled technicians, coordinators, and workshop presenters.

SWCDs Activity Summary 2005-2007

In the past two and one half years, the SWCDs have been involved in a wide variety of activities to promote the information presented in the Bear Creek and Inland Rogue Agricultural Water Quality Area Management Plans.

Jackson SWCD Activity Summary

The following summarizes the direct activities, with help from Oregon Department of Agriculture funding, of the Jackson SWCD, where technical assistance, information, and/or plans were supplied to the citizens of Jackson County. These activities helped with conservation projects that led to improved water quality.

- Approximately 4,900 people were given technical assistance on 16,000 acres through a combination of:
  - 98 on-site visits
  - 1,279 in-office contacts
  - 2,000 phone calls (Approximately)
  - 32 workshops or classes
  - Two 10-week forage and pasture management courses (7-9 Farm Conservation Plans)
  - 113 meetings
  - 3,000 newsletters distributed
  - Ten local tours
  - Two annual tours
  - 13 presentations
  - 41 grazing, fencing, irrigation water management, nutrient management, and seeding & haying prescriptions
  - 12 status reviews and inspections

Oregon Department of Agriculture funding and other support indirectly helped the Jackson SWCD with:

- One large Oregon Watershed Enhancement Board (OWEB) grant for the **Workgroup Assistance and Training for Environmental Resources** "WATER" Course
- Three OWEB Small Grants for irrigation water efficiency and riparian enhancement totaling $19,800.00
- 13,000 Rural Living Handbooks developed and 11,000 distributed (currently)

Josephine SWCD Activity Summary

The following summarizes the activities of the Josephine SWCD to the citizens of Josephine County in support of the implementation of the Inland Rogue Area Plan:

- Worked with 11 landowners on Jump-off Joe Creek, applying for funding for stream bank erosion control.
- Applied for two irrigation improvement grants to address erosion and increase production with precision irrigation.
- Provided assistance for Waste Management Plans for three swine growers.
- Planned and prepared continuing education class in natural resources for real estate professionals held April 1, 2005. This

resulted in a professionally produced natural resource guide by a local title company.
- Met with 4-H, Job Council youth to do streamside clean up and tree plantings. Provided information to 4-H groups about the Agricultural Water Quality Program as related to livestock projects
- Provided water quality site visits for flood damage, erosion, riparian buffers, irrigation, and other water quality concerns (sediment).
- Installed Josephine Public Library display in two consecutive years featuring water quality and Inland Rogue Area plan and rules.
- Attended Master Gardener's Spring Fair and handed out materials and provided technical assistance.
- Attended Josephine County Fair and handed out material and provided technical assistance.
- Distributed Inland Rogue Area Plan and rules materials at Josephine County OSU Extension office.
- Provided ground water quality speaker at one Josephine SWCD business meeting.
- Completed three conservation plans addressing water quality concerns.
- Conducted site visits with water quality planner for training purposes.

Illinois Valley SWCD Activity Summary

The following summarizes the activities of the Illinois SWCD to the citizens of Josephine County in support of the implementation of the Inland Rogue Area Plan:

- Completed Wing-Ferren project (Rough and Ready Creek) which improved irrigation efficiency and increased in-stream flows by piping a 2 mile long irrigation ditch, modified the diversion dam to improve fish passage, and installed a self-cleaning fish screen and bypass system to reduce fish mortality.
- Completed work on the McIntosh project (Sucker Creek) which improved fish habitat and water conservation by decommissioning the gravel push-up dam for the Lewis ditch, abandoning the ditch, and providing a pump and pipeline system to provide water rights to the water users of the ditch.
- Performed macroinverterbrate monitoring work at nine sites randomly selected by computer throughout the Illinois Valley watershed. Also performed an outreach and education program geared to school-aged children about the importance of macroinverterbrates.
- Continued work on the Houck-George project (Althouse Creek). The project was a fish habitat enhancement and water conservation project for 6 water rights holders on Althouse Creek from the Houck and George ditches.
- Completed the Elliott Ditch project (Sucker Creek) which improved irrigation efficiency and increased in-stream flows by retiring the gravel push-up dam at the ditch's headgate and piping the irrigation ditch to the water rights users.
- Coordinated point of diversion transfer paperwork with the Oregon Water Resources Department (OWRD) for water rights holders of the Kerby Ditch for the Kerby Ditch project.
- Completed the Webb Ditch project (Elk Creek), which replaced 1,700 feet of open irrigation ditch with buried pipeline.
- Completed work on the Moser Ditch project (Sucker Creek) to include obtaining funds, landowner agreements, point of diversion transfers, obtaining removal-fill permits, and designing systems. The project improved fish habitat and water conservation by decommissioning the gravel push-up dam for the Moser ditch, abandoning the ditch, and providing a

pump and pipeline systems that provide water rights to the water users of the ditch.

- Completed work on the North Kerby Ditch project (East Fork Illinois River) to include obtaining funds, landowner agreements, point of diversion transfers, obtaining removal-fill permits, and designing systems. The project provided a pump and pipeline system to the last two agricultural users with water rights from the Kerby Ditch. The project provides water to approximately 30 acres on the east side of U.S. Hwy. 199 at Sauer's Flat.
- Partnered with Forestry Action Committee in completing the Padgett property project (Sucker Creek). The project served to provide bank stabilization in a fish friendly manner to save private forestlands.
- Began preliminary development and coordination of the 3 Creeks fish habitat enhancement project, which will provide channel restoration and provide habitat enhancement on approximately 2 miles of reach on Deer Creek, Kelly Creek, and Sucker Creek. Approximately 600 acres in agricultural and mining production are involved in the project.
- Supported the Forestry Action Committee's riparian tree planting program. Provided technical support, leadership in the form of planting team leaders, and up to $1,000.00 to the project that is distributed to area youth organizations for kids participating in the annual planting day project.

Applegate Watershed Council Accomplishments

- Fencing and installation of native vegetation along Bishop Creek.
- Construction of an off-channel watering system.
- Riparian restoration along Forest Creek adjacent to the Hunter feedlot.
- Construction of a bridge over Forest creek to provide cattle crossing from feedlot to pasture. The bridge is scheduled for construction this summer.

Other groups working on agricultural lands

The LAC acknowledges that there are many other groups who are actively working with landowners to improve water quality on agricultural lands. These other organizations include many of the areas' watershed councils and irrigation districts.

Monitoring and Evaluation

Evaluating an area plan's success involves several types of monitoring. These are:

- Baseline condition monitoring
- Trend monitoring
- Implementation monitoring
- Effectiveness monitoring

Baseline Condition and Trend Monitoring – What are current conditions and how are they changing?

Baseline condition monitoring provides a starting point for assessing water quality trends and land conditions. To evaluate the effects of the Area Plan and Rules, implementation partners must establish a picture of conditions prior to implementation.

Trend monitoring evaluates long-term changes in landscape conditions and water quality. In general, trend-monitoring activities are a continuation of baseline monitoring activities. Ideally, areas selected for baseline monitoring will also be used for trend monitoring.

To assess existing water quality conditions, Oregon Department of Agriculture water quality staff review water quality data from the Oregon Department of Environmental Quality's Laboratory Analytical Storage and Retrieval (LASAR) database. In many cases, monitoring sites included in this database are adequate to track water quality in agriculturally influenced watersheds. In other cases, ODA staff may recommend additional monitoring sites that would be useful for tracking agriculture's effects on water quality.

ODA looks at all data for trends, but focuses on the parameters of concern for the specific subbasin.

ODA applies the following criteria to water quality data used for trend monitoring:

1) Monitoring stations must have at least partial influence from agricultural lands.
2) Data must not be older than 1985.
3) Data must be a continuous record of at least two years (the frequency of monitoring was not considered).
4) Data set ideally should include at least the following constituents:
    a) Total Suspended Solids
    b) Nitrate
    c) Ammonia
    d) E. coli or fecal coliform
    e) Total Phosphorus or orthophosphate
    f) Dissolved Oxygen, or Chemical Oxygen Demand/Biochemical Oxygen Demand
    g) pH

The above constituents are considered needed for tracking changes in water quality related to agricultural activities. Temperature is not included on this list because it is continuously monitored, rather than periodically like the parameters above, and because ODA expects changes in temperature to take place more slowly with changes in land conditions.

As of June 2007, the monitoring site at Dodge Park did not show any notable water quality problems. The Lobster Creek site showed an increasing trend in nitrate, with an approximate mean increasing from 0.08 mg/l in 1996 to 0.11 mg/l in 2006. These values are not very high, but having an increasing trend could indicate future problems with nutrient concentrations. The Robertson site also showed a slightly increasing trend in nitrate. The Little Butte site showed an increasing trend in E. coli, with approximate means increasing from 170 counts to near 400 since 2002 (when the data set begins.) This trend is heavily influenced by a few samples with high concentrations, so there is a possibility that it will not continue through the next few years.

Recommendations for Monitoring

The LACs recommend that the following occur:

- Monitoring data be included from Rogue Valley Council of Government accessing existing data from voluntary cooperation of landowners and influencing new monitoring points.

- Ask watershed councils to work more closely with ODA.

- ODA should work with soil and water conservation districts to develop water quality monitoring programs.

- Monitoring efforts should focus on bacteria, temperature (from irrigation run-off) and sediment.

Implementation monitoring – What is being accomplished?

Implementation monitoring tracks the conservation practices that have been implemented to benefit water quality. The local SWCDs and NRCS offices track practices that have been implemented through quarterly reports to ODA and through an NRCS database. In addition, projects that have received funding from the Oregon Watershed Enhancement Board are tracked in OWEB's restoration database.

It is more difficult to track beneficial practices that landowners have implemented on their own without funding or outside technical assistance.

Accomplishments within the Bear Creek and Inland Rogue Management Area between 2005 and 2007 are summarized on pages 5-7 of this report.

Effectiveness monitoring – Are efforts protecting and improving water quality?

Effectiveness monitoring occurs at two scales. At a Management Area scale, land condition data and water quality data are compared over time to determine if changes in land conditions are improving water quality. At a farm scale, ODA and local partners are working to evaluate the effects of several management practices on water quality. Effectiveness monitoring may occur once adequate water quality and land condition data are obtained.

Complaints

In the past two years there have been two complaints received from the Bear Creek area:

- Concern over storage of manure and shavings from small acreage farm. A Letter of Compliance was issued.
- Concern over livestock access to creek, lack of riparian vegetation and manure storage. A Letter of Warning was issued.

In the past two years the Inland Rogue area has received five complaints:

- Livestock manure entering creek. A Letter of Compliance was sent.
- Horse manure entering creek. No action was taken.
- Improper manure storage. Letter of Compliance was sent.
- Horse manure entering creek. Water Quality Advisory sent.
- Horses degrading riparian area. Water Quality Advisory sent.

V. Bear Creek and Inland Rogue Area Plans and Rules Review Process

In June of 2007, as provided by OAR 603-090-0020, the Inland Rogue LAC met to conduct the periodic review and update of the Area Plans and Rules. The following LAC members participated:

- Greg Walch
- Walt Fitzgerald

- Connie Young
- Paul Kay
- Jim Hill

At the meeting a quorum was not present, but those present discussed clarification of existing rules and discussed recommended changes to the biennial report. The final biennial report was approved by the LAC via mail vote.

V. Recommendations for the Next Two Years of Implementation

The Committee believes a more aggressive education and outreach program would be effective at this time due to the following factors:

- The merger of the Inland Rogue and Bear Creek Management Areas.
- The current development of the Rogue Basin Coordinating Council strategic plan.
- The willingness of many individuals and organizations to partner with the LAC, ODA and the local Soil and Water Conservation Districts.

The Committee believes that the networking opportunities with other organizations are large and that an increased educational effort will benefit all organizations.

The Committee recommends the following specific actions:

- Identify groups to target in outreach efforts, such as 4-H, Future Farmers of America, Rogue Basin Coordinating Council, The Nature Conservancy and other environmental groups.
- Increase capacity and capability for outreach and technical assistance to all organizations.
- Develop more demonstration projects and conduct regular tours of them.
- Use television advertisement and direct mailings to reach targeted audiences.
- Find methods to reach new people moving into areas (i.e. through realtors).

VI. Conclusions

The Inland Rogue Local Advisory Committee believes the area plans and rules implementation has limited impact on the agricultural community. Those complaints that have been addressed have been addressed smoothly, but there have been an overall limited number of complaints. The Committee believes few landowners are aware of the rules and plan and therefore they have had little impact. The LAC believes that those landowners that are aware of the plan and rules feel that there is nothing to be afraid of. Good production and good stewardship go hand in hand. Landowners continue to work with a variety of local partners to implement water quality improvement activities. Many landowners are working with partner agencies and organizations to access funding to support water quality improvement activities.

Water quality monitoring is ongoing in the management area but needs to be expanded to include data from other organizations in order to track the influence of agriculture on water quality. The LAC also encourages the expansion of education and outreach efforts to inform all landowners of the rules and plan.

The Jackson, Josephine and Illinois Valley SWCDs will continue implementing the area plans in cooperation with ODA and other partners.